

# DOCUMENT RESUME

ED 179 551

TM 008 207

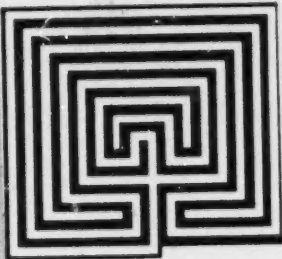
TITLE Parent's Guide to Understanding Tests.  
 INSTITUTION CTB / McGraw-Hill, Monterey, Calif.  
 PUB DATE 76  
 NOTE 15p.  
 EDRS PRICE MF01/PC01 Plus Postage.  
 DESCRIPTORS Cognitive Tests: \*Educational Testing; Parent School Relationship: \*Scores; Standardized Tests; \*Student Testing; Test Interpretation: \*Tests

## ABSTRACT

This brief introduction to testing is geared to parents. Types of tests are defined, such as standardized tests, achievement tests, norm referenced tests, criterion referenced tests, and aptitude tests. Various types of scores (grade equivalent, percentile rank, and stanine are also defined, and the uses made of tests by administrators, teachers, and counselors are described. Information provided especially for parents involves availability of testing information; helping children prepare for tests; meaning of scores; and school improvement. (MH)

\*\*\*\*\*  
 \* Reproductions supplied by EDRS are the best that can be made \*  
 \* from the original document. \*  
 \*\*\*\*\*

TM008 207



ED179551

"PERMISSION TO REPRODUCE THIS  
MATERIAL HAS BEEN GRANTED BY

June C. Duran

CTB/McGraw-Hill

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH,  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-  
DUCED EXACTLY AS RECEIVED FROM  
THE PERSON OR ORGANIZATION ORIGIN-  
ATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT  
OFFICIAL NATIONAL INSTITUTE OF  
EDUCATION POSITION OR POLICY.

# Parent's Guide to Understanding Tests

Published by CTB/McGraw-Hill, Del Monte Research Park, Monterey, California 93940. Copyright 1976 © by McGraw-Hill, Inc. All Rights Reserved. Printed in the U.S.A. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the publisher.

# Introduction



Standardized tests have been used in American schools for more than 50 years. They serve many useful purposes for school administrators, teachers, counselors, parents, and students themselves. The development of tests has become a complex science. People can easily be confused by the variety of tests, the scoring methods, and the uses to which the results are put.

This booklet is intended to help you, the parent, to understand the kinds of tests that are given to your children and to make the most of the test scores for planning your child's educational progress and for setting future goals.

When educators use the word "standardized," they are talking about a highly specific concept in education. "Standardized" means that a test is designed so that everyone who takes it does so under the same conditions: the same instructions, the same time limits, and so on. This ensures that the results from tests given at different times and in different places can be meaningfully compared. Such uniformity furnishes a constant point of reference with which we can compare individual scores and provides a way of measuring student's achievement relative to that of other students.

Mutually agreed on reference points are necessary to today's educators. Americans are on the move. Families often change residences while their children are of school age. If there were no agreement on what Grade 2 means from one school to another, students, teachers, and parents would be unnecessarily confused. Additionally, some measure of what skills the student has mastered must be available to the new school—in a form that can be understood without knowing much about the previous teachers or school system.

Standardized tests are also essential within a single school. They are an important addition to the other methods available for evaluating a student's progress. The classroom teacher's evaluation of performance is useful because it is concerned with limited content span and local goals. Standardized tests add another, objective, measure of achievement that can be compared with a common criterion.

# Kinds of Tests



A wide variety of tests are available today. Most fall into one of two broad categories. Some tests measure academic *achievement*; what a student has already learned in a particular area. Others are designed to indicate a student's *aptitude*; his or her ability to learn and the likelihood of success in future study.

## Achievement Tests

The tests most often used in educational settings measure academic achievement in reading, English grammar, mathematics, science, and social studies. These tests are of two types: *norm-*

*referenced* tests and *criterion-referenced* tests. These two types of tests have different purposes and provide different types of information. Both have a place in the educational process.

In a *norm-referenced test*, the score of each student can be compared with the scores of other students who have taken the same test under standardized conditions. In this way, it is possible to tell where a student stands in relation to other students in the same grade or group.

Norm-referenced tests, which are widely used today, are developed in a systematic way. Test questions are written, frequently by teachers with

several years of classroom experience, to test academic skills that represent current educational curricula. Next, these questions are given to sample groups of students at the appropriate grade levels to find out if the questions measure what they are supposed to measure. Finally, after questions that do not work have been discarded, the entire test is given to a large group that has been carefully chosen to be representative of schoolchildren in the United States.

Several kinds of scores have been developed for norm-referenced achievement tests, because no one has been able to invent a single test score that will serve all the purposes for which test scores are used. The three types of scores most frequently encountered are: percentile rank, grade equivalent, and stanine. *Percentile rank* reflects a student's performance in comparison with the performance

of a specific group of similar students, frequently a cross-section of students in the United States who are in the same grade and who took the same test at the same time of year. For example, if a student were at the 80th percentile (nationally) when tested near the end of third grade on a reading test, this would mean that he or she scored higher in reading than 80 per cent of all third graders, if they had taken the same test at the same time of year. Percentile ranks range from 1 to 99, with the average rank being 50.

Local percentile ranks are sometimes used also. These percentile ranks give comparisons within smaller groups—such as among students in one school, district, or state.

A *grade equivalent* relates a student's performance to the level of performance that is typical for a specific grade in school. For example,

if a student scored 3.5 on a mathematics test, this means the student performed on that mathematics test like a typical third grader in the fifth month of the school year.

When a student's grade equivalent is markedly higher or lower than the student's grade at the time of testing, the score should be interpreted with considerable caution. For example, if a second grader scores 5.0 on a mathematics test that was intended for second grade use, this does not mean that the student is ready to master fifth-grade mathematics. The student probably has not mastered long division, which is not taught until the fourth grade. In this case, the score of 5.0 should be interpreted as being far superior to the scores achieved by most second graders, but not as representing the level of attainment in mathematics typical of a fifth grader.

A *stanine* is a score that ranges from 1 to 9, with average performance at 5, with 9 as the highest and 1 as the lowest scores. A stanine score places a student on this scale by comparing his or her performance with the performance of a group of other students. As with the percentile rank, this comparison group can be made up of a national sample or a smaller local sample. Unless the group is carefully defined the score will have little meaning.

*Criterion-referenced tests* measure a student's mastery of the specific objectives of an educational program. No comparisons are made between students' scores. This kind of test aids in tailoring each student's learning program to his or her own specific needs and talents.

The purpose of criterion-referenced testing is to determine which specific skills have been

mastered and which have not. For example, on a criterion-referenced mathematics test, results might indicate "knows how to do long division. Does not know how to divide fractions," and so on for each skill taught at the student's learning level. Knowing what objectives a student has not yet learned enables the teacher to work more efficiently, by concentrating on those skills yet to be mastered.

### Aptitude Tests

So far, we have talked about tests that measure a student's actual achievement: what he or she has learned. Another form of standardized test was developed to measure *aptitude* for school learning. Some of these tests are popularly called "IQ tests." IQ stands for intelligence quotient, a form of aptitude score. Publishers usually set the average IQ on their tests at 100. About one-sixth

of all students will score above 116, and one-sixth below 84. There are many other measures of a student's ability to learn. An IQ is only a single aptitude score. We should beware of assigning it too much respect.

Lately, there has been much discussion and controversy surrounding the definition of and use of aptitude tests in education. Although individual opinions vary, it is reasonable not to consider an aptitude score a fixed or permanent measure of a student's potential. Such a score represents an estimate, at the time of testing, of the likelihood of the student's success in future study in areas related to the aptitude being measured. Valuable information has been gained from the practice of comparing a prediction of achievement made from an aptitude test to the student's actual performance on an achievement test.

# Uses of Tests



To make the best use of test data, most schools have a staff member who is specially trained in administering and interpreting tests—a school psychologist, guidance counselor, or director of testing. In addition, some states require teachers to have a course in testing for license certification. To determine whether your school has prepared its staff properly for understanding testing, you should contact the administration.

## School Administrators

Standardized test scores provide valuable help to superintendents, principals, and curriculum

supervisors. The results of testing whole classes or districts over a period of years provide these officials with essential information for educational planning. Comparisons can be made between performances of classes in a school, schools in a district, or districts against the national average. Rising or falling scores over a period of time can alert educators to areas of instruction that need to be improved, and inform them whether attempts at improvement have been successful.

Experimental programs can be evaluated by comparing the performance of the experimental group to which the experimental program is being

applied with the group to which the program is not being applied. The relative success of different approaches to the teaching of one subject can be similarly compared.

By comparing the performance on an aptitude test of a group of students with their scores on achievement tests, it is frequently possible to determine whether the students are achieving to their maximum ability.

Schools and school districts are accountable to an increasing number of community groups. They must be able to satisfy federal, state, and local officials that all requirements for instruction have been met. Standardized test results, because they can easily be compared from one district to another, are a valuable means of checking whether educational tax dollars are being utilized effectively.

### Teachers

Publishers provide teachers with analyses of tests that have been given. Teachers can determine which test questions were not answered correctly by their students and which subject areas are weakest. The teacher can then implement a plan to eliminate the weaknesses.

Criterion-referenced tests are especially useful to the teacher in planning day-to-day instruction. These tests enable the teacher to develop a plan to help each student to learn those objectives that the tests indicate have not been mastered.

### Counselors

Counselors use tests to assist students in planning future education and in selecting a career. In addition to aptitude tests, counselors will usually use *interest inventories* to find what kinds of activ-

ities each student is interested in and tests of values to determine the kind of lifestyle a student would enjoy most.

When counselors are called on to determine why a student is having trouble in school, they will also use "personality" tests. Many of these tests are designed to determine a student's attitudes—toward school, home, teachers, and peers.

# Parents and Tests

---



## Availability of Testing Information for Parents

Tests are not mysterious or secret. Parents are entitled to know the results of tests administered to their children. These rights have recently been clarified by federal laws assuring freedom of information. Whenever appropriate, students should also have access to test results that may help them to learn about their own strengths and weaknesses and to take corrective action.

Many schools send home a report that includes the student's scores on a battery of achievement tests and an explanation of the scores and the testing program. Schools should be willing to schedule a parent-teacher conference so that you

can discuss your child's scores. Parents should feel free to ask questions whenever they feel it to be necessary.

## Helping Children Prepare for Tests

Students are best prepared for tests when they have a calm, relaxed attitude and understand the purposes of testing. Parents can help by explaining to their children that the tests are not a competition, but a personal diagnosis. Parents should express interest in forthcoming tests, but they should not show any undue concern that might make the child anxious. Punishment or reward are inappropriate.

Schools should prepare students and teachers for the process of test-taking. Students should be informed in advance of the date and the purpose of each test. Teachers can familiarize students with the types of questions to expect, methods of marking answers, and other testing procedures, so that the regulated atmosphere of the test will not be unfamiliar. Very young students may need advance instruction in how to mark answers so that the tests can be accurately scored by a machine.

### The Meaning of Scores

Parents should remember that 49 per cent of the students taking any national test will receive percentile ranks below the average score of 50. Only 10 per cent of the students can be expected to obtain percentile ranks in the 90s. No two people are alike, and your child's percentile rank is

only one part of the overall picture of his or her educational development.

Many factors affect a student's test score. Many psychologists believe that among the major factors are the traits a child inherits from the parents and the home environment. Teachers and the school environment are also influential, but parents should remember that they are partly responsible for their child's achievement.

### Improving the School

Tests serve the very useful function of helping citizens evaluate the performance of their school system, and compare it to other school districts. Parents are taxpayers, and they are paying for the schools. Parents have the right to insist on a good testing program that can provide them with useful data for evaluating their schools.

# Conclusion

---



CTB/McGraw-Hill has prepared this brochure in the belief that students, parents, and our schools have much to benefit from a more precise understanding of the many useful roles served by the testing process. We welcome your comments. Please address them to Frank W. Snyder, Ph.D., Editorial Director, CTB/McGraw-Hill, Del Monte Research Park, Monterey, California 93940.